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Title : Understanding diet in NW Atlantic Grey seals.

Category : Ecology

Student : Not Applicable

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Abstract : Information on diet composition is important to understanding the role of a predator in an ecosystem. Most diet information has come from analyses of stomach content or fecal data. Harp seals feed on both fish and zooplankton. In an earlier study, we showed that reconstructions from faecal material, as represented by small intestine contents, would significantly underestimate the zooplankton contribution to the diet. Here we examined if reconstructions from stomach and small intestine content material of a more piscivorous phocid, the grey seal, provided similar estimates of diet composition. Seventy-five grey seals collected by local hunters in the Gulf of St. Lawrence, Canada contained prey remains in the stomach and small intestines. Diet composition was reconstructed from identification of hard parts, and hard part-prey length-mass-energy density relationships. Samples were then bootstrapped 1000 times to obtain the average (SD) contribution of the prey to the diet. In the stomach, herring (23%), sandlance (21%), hake (14%), plaice (9%), cunner (6%), cod (6%) and unidentified fish (6%) accounted for 85% of the energy in the diet. In the small intestine, sandlance (18%), herring (17%), hake (14%), plaice (5%), cod (5%), cunner (4%) and unidentified prey (22%) accounted for 85% of the total energy composition of the diet. Small intestine contents were still useful in identifying the most important prey, although there was a decline of up to 25% in the importance of prey such as herring when stomach and small intestine reconstructed diets are compared. The marked increase in unidentified fish species likely occurred due to erosion of fragile herring and sandlance otoliths, while more rugged cod and hake otoliths were much less affected.